



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,636	10/15/2003	Stephen W. Bedell	YOR920030340US1	4997

7590 01/15/2008
Ryan, Mason & Lewis, LLP
Suite 205
1300 Post Road
Fairfield, CT 06824

EXAMINER

VU, HUNG K

ART UNIT	PAPER NUMBER
----------	--------------

2811

MAIL DATE	DELIVERY MODE
-----------	---------------

01/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/685,636
Filing Date: October 15, 2003
Appellant(s): BEDELL ET AL.

Kevin M. Mason
For Appellant

MAILED
MAILED
JAN 13 2008
GROUP 2800
GROUP 2800

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/17/07 appealing from the Office action mailed 09/26/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,306,729

SAKAGUCHI ET AL.

10-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakaguchi et al. (PN 6,306,729).

Sakaguchi et al. discloses, as shown in Figures 1A-1F and 6A-6F, a layer transfer structure comprising a carrier substrate (11) having a porous region (13,33,43) with a tuned porosity in combination with a species (doped) positioned therein defining a separation plane in the carrier substrate.

Note that the term “implanted” is method recitation in a device claimed. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Also note that Sakaguchi et al. also disclose the porous region is doped by diffusion, ion implantation or epitaxial growth.

Regarding claim 2, the term “the separation plane is defined by a position and an amount of the implanted species” is method recitation in a device claimed. Note that Sakaguchi et al. discloses the porous region is doped by diffusion, ion implantation or epitaxial growth. [Col. 7, lines 27-44 and Col. 30, lines 9-52]. Sakaguchi et al. further discloses the plane can be separated at the specific depth in the porous region by implanting ions [Col. 11, lines 1-6]

Regarding claim 3, Sakaguchi et al. discloses the structure further comprising a transfer layer (12A) on the carrier substrate.

Regarding claim 4, Sakaguchi et al. discloses the structure further comprising a tunable epitaxial layer (14). Note that the term “thermally regrown” is method recitation in a device claimed.

Regarding claim 5, Sakaguchi et al. discloses a component selected from the group consisting of a device layer, an interposer structure, a functional layer and combinations comprising at least one of the foregoing components is formed in the tunable epitaxial layer [Col. 11, lines 11-24].

Regarding claim 6, Sakaguchi et al. discloses the porous region comprises a varied porosity (33,43) [Col. 10, lines 39-60].

Regarding claim 7, Sakaguchi et al. discloses the porous region comprises at least two different porosities (33,43) [Col. 10, lines 39-60].

Regarding claim 8, Sakaguchi et al. discloses the porous region comprises dopants. Note that the term “the implanted species ...” is method recitation in a device claim.

Regarding claim 10, Sakaguchi et al. discloses the carrier substrate comprises silicon [Col. 7, lines 9-29].

Regarding claim 11, Sakaguchi et al. discloses the transfer layer. Note that the term “is formed by a process selected ... foregoing process” is method recitation in a device claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi et al. (PN 6,306,729).

Sakaguchi et al. discloses the claimed invention including the structure as explained in the rejection above. Sakaguchi et al. does not disclose material of the implanted species. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the device of Sakaguchi et al. having the materials as that claimed by Applicant, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Also note that the term “the implanted species ...” is method recitation in a device claim.

(10) Response to Argument

Regarding claim 1, Appellant argued Sakaguchi et al. does not disclose a carrier substrate having a porous region with a tuned porosity in combination with an implanted species positioned therein defining a separation plane in the carrier substrate. This argument is not convincing for the following reasons: first, Sakaguchi et al. discloses a carrier substrate 11 having a doped layer

12, wherein the side surface of the doped layer 12 is modified into a porous region 13 which are separated into two parts along the inside of the porous region 13 [Col. 3, lines 39-64]. Second, Sakaguchi et al. discloses the doped layer can be formed by the techniques including diffusion, ion implantation and epitaxial growth [Col. 7, lines 27-44 and Col. 30, lines 9-52].

Appellant argued that “implanted species” limitation is a not a method recitation nor merely an indication of the method of production for it defines a characteristic of the structure with the benefit is that well controlled tunability of the process is accomplished by varying the amount, i.e., dose and the position, i.e., depth of the implanted ions, providing needed stability of this bi-layer during further decal processing, but at the same time, enabling easy separation when release process is required. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the benefit is that well controlled tenability of the process is accomplished by varying the amount, i.e., dose and the position, i.e., depth of the implanted ions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Appellant argued that implantation infers that the species is positioned at certain location within the substrate (e.g., the species has a Gaussian distribution) and doping does not provide for positioning a species at certain locations within the doped region. This argument is not convincing because the claims are device claims, the limitation is met by the dopant species being present, not by the method (implant or deposition) of placing the species. Further, it is

noted that the features upon which applicant relies (i.e., positioned at certain locations within the substrate) are not recited in the rejected claim(s).

Regarding claim 2, Appellant argued that the position and amount of the implanted species is a characteristic of the separation plane and is therefore not a method recitation. This argument is not convincing because the claim does not specifically state at what position and how much amount is the separation plane is defined. Sakaguchi et al. discloses the separation plane is separated at some position along the inside of the porous region 13. Sakaguchi et al. further discloses the porous region 13 is formed by modified the side surface of the doped layer 12 by some amount of species, wherein the doped layer can be formed by the techniques including diffusion, ion implantation and epitaxial growth [Col. 7, lines 27-44 and Col. 30, lines 9-52]. Sakaguchi et al. further discloses the plane can be separated at the specific depth in the porous region by implanting ions [Col. 11, lines 1-6].

Regarding claim 6, Appellant argued Sakaguchi et al. discloses two different layers of different porosity, not the porous region comprises a varied porosity as claimed. This argument is not convincing because Sakaguchi et al. discloses the porous region is made to comprise two or three thin layers having different porosities [Col. 10, lines 39-60]. Sakaguchi et al. specifically states the porous layer comprises a plurality of sub-layers 33, 43 having different respective porosities.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Hung Vu

Hung Vu

Conferees:

Lynne Gurley J.A.

David Blum D.B.

Hung Vu Hu